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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND
INTERFERENCES

In re Application of

Erik C. Schylander

RECORD CARRIER, APPARATUS
AND METHOD

Serial No. 09/315,707

Filed: May 20, 1999

Group Art Unit: 2615

Examiner: Vincent F. Boccio

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APPEAL BRIEF UNDER 37 C.F.R. § 41.37

This revised Appeal Brief is being filed concurrently with a Petition to Revive an Unintentionally Abandoned Application and is responsive to the Notice of Non-Compliance with 37 CFR 1.192(c) mailed October 23, 2003, and pursuant to the Notice of Appeal filed June 12, 2003. This revised Appeal Brief is filed in support of an appeal from the rejection office action rejection dated March 11, 2003.

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Serial No. 09/315,707

Real party in interest

The real party of interest is the Assignee who is U. S. Philips Corporation, a corporation existing under the laws of the State of Delaware (hereinafter Appellant).

Related appeals and interferences

There are no related appeals or interferences to the present application that are known to appellants, the appellant's legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

Status of the Claims

Claims 9-51 are the appealed claims for the present application for invention are drawn to a method and apparatus for reproducing user data under control of control data. Claims 1-8 are cancelled. A copy of appealed claims 9-51 is contained in Appendix I following this brief.

Status of the Amendments After Final

A response was filed subsequent to the final rejection to overcome the Examiner's rejection of claims 9-51 under 35 U.S.C. §102(b) and alternatively under 35 U.S.C. §103(a) over published International Application No. WO 98/09290 by David et al. The Examiner in an Advisory Action dated May 27, 2003 (Paper No. 20) indicated that the rejections of claims 9-51 under the provisions of 35 U.S.C. §102(b) and 35 U.S.C. §103(a) stand.

Summary of the Claimed Subject Matter

The present invention discloses a method and apparatus for reproducing user data under control of control data. The apparatus comprises a processor controllable by the control data. The apparatus comprises a record carrier which stores the user data and the control data in digital form. The user data and the control data may be read from the record carrier (see Figure 1, and specification, page 4, lines 1-7). The control data comprises play control data which defines user data items of the user data that are playable. The control data also comprises selection control data for enabling the user to select user data and control reproduction of the

selected user data. The control data additionally comprises variable control data for operating on user and system variables (see specification page 4, line 32 - page 5, line 4).

The variable control data comprises at least one conditional instruction. Each instruction of the at least one the conditional instruction includes an operation code and operands. The operation code includes an operation portion denoting an operation and a condition portion denoting a condition. The operation is to be executed if the condition is TRUE, and the operation is not to be executed if the condition is FALSE. The operation is adapted to be performed in conjunction with at least one of said operands(see Figure 5, and the specification page 7, line 18 - page 8, line 5).

The at least one instruction is embedded in a Command List comprising a Command List Header precedes the at least one instruction (see specification page 7, lines 13-16). The Command List further comprises an unconditional goto which points to a next list to be executed following execution of the Command List, wherein the next list may be another Command List (see specification page 3, lines 11-14).

The play control data is embedded in Play Lists, the Play Lists comprising at least a Play List Header as a first item and at least one Play Item representing playable user data and at least one reference to a further List (see Figures 2a-2b; and specification, page 5, line 6 - page 6, line 12). The selection control data is embedded in Selection Lists, the Selection Lists comprising at least a Selection List Header, at least one reference corresponding to a user selection, the Headers being mutually different (see Figure 3; and specification, page 6, line 13 - page 7, line 11). The Command List may include a reference to a Play List or a Selection List (see specification page 7, line 17).

The operation code and operands of each instruction are stored in a contiguous set of bytes. The operands in an instruction may include indices pointing to elements of an array. The condition denoted in an instruction may include a dependence on at least one of the indices. An index of the indices may point to an element E_1 of the array subject to is $E > 0$, $E < 0$, or $E = 0$. A first index may point to a first element E_1 of the array, wherein a second index may point to a second element E_2 of the array, and wherein $E_1 > E_2$, $E_1 < E_2$, or $E_1 = E_2$. The operation denoted in an instruction may be an arithmetic operation, a logical operation, a wait operation, an assignment operation, or a wait operation. The instruction may include a constant adapted to be inserted by the instruction into at least one element of an array. The operation denoted in the

first instruction may be a jump operation, wherein a jump adapted to be executed by the jump operation is a jump to a list adapted to be next executed (see Figure 5, and specification, page 7, line 18 - page 9, line 10).

Appealed claim 9 defines subject matter for a record carrier 1 comprising video-related user data and control data in digital form, wherein the control data enables playback control of the user data, and wherein the control data The user data and the control data may be read from the record carrier (see Figure 1 and specification, page 4, lines 1-7). The control data comprises play control data which defines user data items of the user data which are playable. The control data also comprises selection control data for enabling the user to select user data and control reproduction of the selected user data. The control data additionally comprises variable control data for operating on user and system variables (see specification page 4, line 32 - page 5, line 4. The play control data which defines user data items of the user data are playable, selection control data for enabling the user to select user data and control reproduction of the selected user data (see specification page 4, line 32 - page 5, line 4).

Variable control data for operating on user and system variables, wherein the variable control data comprises at least one conditional instruction, wherein each instruction of the at least one the conditional instruction includes an operation code and operands, wherein the operation code includes an operation portion denoting an operation and a condition portion denoting a condition, wherein the operation is to be executed if the condition is TRUE, wherein the operation is not to be executed if the condition is FALSE, and wherein the operation is adapted to be performed in conjunction with at least one of said operands (see Figure 5, and specification page 7, line 18-page 9, line 11).

Appealed claim 27 defines subject matter for an apparatus for reproducing user data under control of control data, comprising a processor controllable by the control data and a record carrier for storing the user data and the control data in digital form, wherein the user data comprising video data, and wherein the control data comprises play control data which defines user data items of the user data which are playable and selection control data for enabling the user to select user data and control reproduction of the selected user data (see Figure 1, and the specification page 4, line 1-page 5, line 5).

Appealed claims 27 further defines variable control data for operating on user and system variables, wherein the variable control data comprises at least one conditional instruction,

wherein each instruction of the at least one the conditional instruction includes an operation code and operands, wherein the operation code includes an operation portion denoting an operation and a condition portion denoting a condition, wherein the operation is to be executed if the condition is TRUE, wherein the operation is not to be executed if the condition is FALSE, and wherein the operation is adapted to be performed in conjunction with at least one of said operands (see Figure 5, and specification page 7, line 18-page 9, line 11).

Appealed claim 40 defines subject matter for a method of reproducing user data under control of control data comprising reading the user data and the control data from a record carrier on which the user data and control data are stored in digital form, wherein the user data comprises video data, wherein the control data comprises play control data, selection control data and variable control data, wherein the selection control data enables a user of the method to select and control reproduction of user data items of the user data, wherein the variable control data controls operates on user and system variables (see Figure 1, and the specification page 4, line 1-page 5, line 5), wherein the variable control data comprises at least one conditional instruction, wherein each instruction of the at least one the conditional instruction includes an operation code operands, wherein the operation code includes an operation portion denoting an operation and a condition portion denoting a condition, wherein the operation is to be executed if the condition is TRUE, wherein the operation is not to be executed if the condition is FALSE, and wherein the operation is adapted to be performed in conjunction with at least one of said operands (see Figure 5, and specification page 7, line 18-page 9, line 11); and playing the user data under control of the play control data (see Figures 2-4, and specification page 5, line 6-page 7, line 17).

Grounds of Rejection to be Reviewed on Appeal

The issues addressed by this appeal are whether claims 9-51 are anticipated by International Publication No. WO 98/09290 by David et al. (hereinafter David et al.) under 35 U.S.C. §102(b) or, in the alternative, whether claims 9-51 are obvious over David et al. (WO 98/09290) under 35 U.S.C. §103(a). The Advisory Action dated May 27, 2003 indicated that the rejections to claim 9-51 stand. Claims 9-51 are the appealed claims.

Argument

I. The rejection of appealed claims 9-51 under the provisions of 35 U.S.C. §102(b) as being anticipated by David et al., or in the alternative under the provisions of 35 U.S.C. §103(a) as being obvious over David et al.

A. The rejection under 35 U.S.C. §102(b)

Appealed claims 9-51 stand rejected under the provisions of 35 U.S.C. §102(a) as being anticipated by David et al. (International Publication Number WO 98/09290). The examiner's position is that David et al. disclose every element defined by appealed claims 9-51. "To anticipate a claim, a prior art reference must disclose every limitation of the claimed invention, either explicitly or inherently." In re Schreiber, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997). Under the principles of inherency, the prior art must function in accordance with the claimed limitations in order to anticipate. In re King, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986).

B. The reference

David et al. (International Publication Number WO 98/09290) teach a record carrier and apparatus for reproducing audio/video information using control structures. David et al. teaches a record carrier and apparatus for keeping the processing power and complexity of the record carrier and apparatus low by the use of control structures in the form of lists (see Abstract). Executable instructions are contained in various types of lists as illustrated in Figures 5-10 and described on page 7, line 13 - page 11, line 4. The Conditional Lists illustrated in Figure 6, and described on page 9, lines 10-18, of David et al. describe a conditional instruction syntax that includes bits which represent the condition portion. The list shown in Figure 6 of David et al. (and indeed all the lists illustrated in Figures 5-10) represents a series of computer instructions that are performed in sequence. It should be noted that there is no disclosure or suggestion within David et al. for the complete listing of any of the lists illustrated in Figures 5-10 to be contained within a single instruction. Figure 6 of David et al. shows a conditional_list_header that defines the condition that is to be checked, a 24 bit operand that defines operands for the condition within the conditional_list_header, and the list in Figures 6 is

completed by an if-then-else configuration including a true_list_offset and a false_list_offset. The appellant contends that the list shown in Figure 6 of David et al. comprises a series of instructions that are intended to be sequentially performed. In fact, even after a resulting branch is made to the locations indicated by pointer offset values, true_list_offset or false_list_offset, the resulting operation has still not been performed.

It should be noted that the conditional instruction syntax shown in Figure 6 of David et al. does not include "an operation portion denoting an operation" to be performed dependent on the result of the condition. David et al. teach an if-then-else format whereby different list offsets identify the branch location responsive to the result of the condition. If the condition is true, true_list_offset indicates the branch destination, if the condition is false, false_list_offset indicates the branch destination. David et al. do not teach, disclose, suggest or provide any motivation for a person skilled in the art to provide the operation to be executed within the conditional instruction shown in Figure 6. David et al. teach that the resulting operation to be executed is contained in a different location that is identified by either the true_list_offset or the false_list_offset. The conditional instruction shown by David et al. in Figure 6 clearly illustrates that the operation to be executed is contained in another location identified by "true_list_offset" if the operation is TRUE, or "false_list_offset" if the operation is FALSE. Note that David et al. do not teach or suggest "an operation portion denoting an operation" be included in **the same instruction** that comprises "a condition portion denoting a condition".

David et al. do not disclose or suggest the feature wherein the conditional instruction includes an operation code and operands, such that the operation code includes an operation portion denoting an operation and a condition portion denoting a condition, wherein the operation is to be executed if the condition is TRUE, the operation is not to be executed if the condition is FALSE, and wherein the operation is adapted to be performed in conjunction with at least one of the operands.

The appellant, respectfully, points out that David et al. do not inherently teach "an operation portion is denoting an operation" in the conditional instruction shown in the Conditional List of Figure 6. The list of Figure 6 (and indeed all of the lists shown in Figures 5-10) provides offsets that are pointers to specific areas. The list in Figure 6 lends itself to easy modification by altering the values of the offsets and this is the motivation that is supplied by

David et al. to a person skilled in the art. David et al. as previously discussed, is intended for less complex and less powerful applications. It should be noted that it would be contrary to the teaching of David et al. to employ instructions that are more complicated because to do so would negate and destroy the data structure taught therein. The list scheme as taught by David et al. underlies the mechanism for storing and executing instructions as envisioned by David et al. The data structure and list scheme form the foundation of the simplified and less complex apparatus taught by David et al. Simply put, incorporation of "an operation portion denoting an operation" into the conditional instruction in the Conditional List of Figure 6 of David et al. is inconsistent with the data structure and list scheme of David et al., and is effectively incompatible with the simplified apparatus that is taught and suggested therein.

C. The differences between the invention and the reference

Appealed claims 9, 27 and 40

The rejection to appealed claims 9, 27 and 40 asserts that the subject matter defined by appealed claims 9, 27 and 40 is disclosed by cited reference David et al. (International Publication Number WO 98/09290).

The Appellant respectfully contends that every limitation of independent claims 9, 27, and 40 are not disclosed by David et al. and that David et al. does not function in accordance with the subject matter defined by claims 9, 27, and 40. Therefore, claims 9, 27, and 40 are not anticipated by David et al. For example, David et al. do not disclose or suggest a conditional instruction that includes an operation code and operands, wherein the operation code includes an operation portion denoting an operation and a condition portion denoting a condition, wherein the operation is to be executed if the condition is TRUE, wherein the operation is not to be executed if the condition is FALSE, and wherein the operation is adapted to be performed in conjunction with at least one of the operands.

David et al. in Figures 5-10 teach executable instructions contained in various types of lists. The Conditional Lists disclosed in of Figure 6, and described on page 9, lines 10-18 of David et al., teach branch operations identified by lists, as previously discussed. The conditional instruction syntax shown in Figure 6 of David et al. teach operands that represent a condition portion, however, the conditional instruction syntax shown in Figure 6 of David et al.

makes no mention of "an operation portion denoting an operation" to be performed responsive to the result of the condition. David et al. teach that the operation to be next executed is not contained within the conditional instruction shown in Figure 6, but is instead present in another location pointed to by offsets. In the conditional instruction shown in Figure 6, the location of the operation to be executed is identified by "true_list_offset" if the operation is TRUE, and identified by "false_list_offset" if the operation is FALSE. The subject matter defined by appealed claims 9, 27, and 40 requires that "an operation portion denoting an operation" be included in the same instruction having "a condition portion denoting a condition", which is not disclosed or suggested by David et al. Therefore, appealed claims 9, 27, and 40 are not explicitly anticipated by David et al.

Appealed claims 9, 27, and 40 are not inherently anticipated by David et al. because the apparatus/record carrier taught by David et al. does not function in accordance with the claimed limitations of appealed claims 9, 27, and 40. Incorporation of "an operation portion denoting an operation" into the conditional instruction in the Conditional List of Figure 6 of David et al. is completely contrary to the data structure taught by David et al. Specifically, the list scheme underlies the mechanism for storing and executing instructions of David et al. The data structure and list scheme form the foundation of operation as taught by David et al. Incorporation of "an operation portion denoting an operation" into the conditional instruction in the Conditional List of Figure 6 is inconsistent with the data structure and list scheme of David et al.

Appellant further notes that the rejection to claims 9, 27, and 40 does not present an analysis showing the features or elements within David et al. that anticipate claims 9, 27, and 40. Specifically, the rejection does not provide any support that David et al. teach or suggest the subject matter defined by claims 9, 27, and 40 with respect to "an operation portion denoting an operation" required to be in the same instruction that comprises "a condition portion denoting a condition".

Appealed claims 10, 29 and 41

Appealed claims 10, 29, and 41 depend from claims 9, 27, and 40, respectively, which the Appellant has argued *supra* to be patentable under 35 U.S.C. §102(b). The Appellant

maintains that claims 10, 29, and 41 are not unpatentable under 35 U.S.C. §102(b) as being anticipated by David et al.

The Appellant contends that claims 10, 29, and 41 are not unpatentable under 35 U.S.C. §102(b), because David et al. do not teach or suggest every feature of appealed claims 10, 29, and 41. Specifically appealed claims 10, 29, and 41 define subject matter for "at least one instruction is embedded in a Command List comprising a Command List Header which precedes the at least one instruction, and wherein the Command List further comprises an unconditional goto which points to a next list to be executed following execution of said Command List". It should be noted that Figure 6 of David et al. provides offset (as previously discussed) that are effectively "conditional" goto statements. Appealed claims 10, 29, and 41, specifically define subject matter that is additional subject matter to the conditional instruction defined by appealed claims 9, 27 and 40. This additional subject matter is not disclosed or suggested by David et al.

Furthermore, the Appellant contends that the rejection of claims 10, 29, and 41 has not provided any argument demonstrating the above discussed additional subject matter defined by appealed claims 10, 29, and 41 is found within David et al. The additional subject matter defined by appealed claims 10, 29, and 41 has not even discussed by the rejection to appealed claims 10, 29, and 41.

Appealed claim 11

Appealed claim 11 depends from claim 9, which the appellant has argued *supra* to be patentable under 35 U.S.C. §102(b) and not anticipated by David et al. The appellant maintains that claim 11 is not unpatentable under 35 U.S.C. § 102(b). The appellant contends that David et al. do not teach or suggest additional subject matter defined by appealed claim 11 for "wherein the next list is another Command List".

The appellant, respectfully, points out that the rejection of appealed claim 11 has not provided any demonstration that the additional subject matter defined by appealed claim 11 for "wherein the next list is another Command List" can be found within David et al. The rejection to appealed claims 11 does not even discuss the additional subject matter defined by appealed claim 11.

Appealed claim 12

Appealed claim 12 depends from claim 10, which the appellant has argued *supra* to be patentable under 35 U.S.C. §102(b) and not anticipated by David et al. The appellant maintains that claim 12 is not unpatentable under 35 U.S.C. § 102(b). The appellant contends that David et al. do not teach or suggest additional subject matter defined by appealed claim 12 for "wherein the next list is not another Command List".

The appellant, respectfully, points out that the rejection of appealed claim 12 has not provided any demonstration that the additional subject matter defined by appealed claim 12 for " wherein the next list is not another Command List " can be found within David et al. The rejection to appealed claims 12 does not even discuss the additional subject matter defined by appealed claim 12.

Appealed claim 13

Appealed claim 13 depends from claim 10, which the appellant has argued *supra* to be patentable under 35 U.S.C. §102(b) and not anticipated by David et al. The appellant maintains that claim 13 is not unpatentable under 35 U.S.C. § 102(b). The appellant contends that David et al. do not teach or suggest additional subject matter defined by appealed claim 13 for "wherein the Command List does not include any other instruction apart from the unconditional goto".

The appellant, respectfully, points out that the rejection of appealed claim 13 has not provided any demonstration that the additional subject matter defined by appealed claim 13 for "wherein the Command List does not include any other instruction apart from the unconditional goto" can be found within David et al. The rejection to appealed claim 13 does not even discuss the additional subject matter defined by appealed claim 13.

Appealed claim 14

Appealed claim 14 depends from claim 10, which the appellant has argued *supra* to be patentable under 35 U.S.C. §102(b) and not anticipated by David et al. The appellant maintains that claim 14 is not unpatentable under 35 U.S.C. § 102(b). The appellant contends that David et al. do not teach or suggest additional subject matter defined by appealed claim 14 for "wherein the play control data is embedded in Play Lists, the Play Lists comprising at least a

Play List Header as a first item and at least one Play Item representing playable user data and at least one reference to a further List; wherein the selection control data is embedded in Selection Lists, the Selection Lists comprising at least a Selection List Header, at least one reference corresponding to a user selection, the Headers being mutually different; and wherein the Command List includes a reference to a Play List of the Play Lists or a Selection List of the Selection Lists".

The appellant, respectfully, points out that the rejection of appealed claim 14 has not provided any demonstration that the additional subject matter defined by appealed claim 14 for ""wherein the play control data is embedded in Play Lists, the Play Lists comprising at least a Play List Header as a first item and at least one Play Item representing playable user data and at least one reference to a further List; wherein the selection control data is embedded in Selection Lists, the Selection Lists comprising at least a Selection List Header, at least one reference corresponding to a user selection, the Headers being mutually different; and wherein the Command List includes a reference to a Play List of the Play Lists or a Selection List of the Selection Lists" can be found within David et al. The rejection to appealed claim 14 does not even discuss the additional subject matter defined by appealed claim 14.

Appealed claim 15

Appealed claim 15 depends from claim 9, which the appellant has argued *supra* to be patentable under 35 U.S.C. §102(b) and not anticipated by David et al. The appellant maintains that claim 15 is not unpatentable under 35 U.S.C. § 102(b). The appellant contends that David et al. do not teach or suggest additional subject matter defined by appealed claim 15 for "wherein the operation code and operands of each instruction are stored in a contiguous set of bytes".

The appellant, respectfully, points out that the rejection of appealed claim 15 has not provided any demonstration that the additional subject matter defined by appealed claim 15 for "wherein the operation code and operands of each instruction are stored in a contiguous set of bytes" can be found within David et al. The rejection to appealed claim 15 does not even discuss the additional subject matter defined by appealed claim 15.

Appealed claim 16

Appealed claim 16 depends from claim 9, which the appellant has argued *supra* to be patentable under 35 U.S.C. §102(b) and not anticipated by David et al. The appellant maintains that claim 16 is not unpatentable under 35 U.S.C. § 102(b). The appellant contends that David et al. do not teach or suggest additional subject matter defined by appealed claim 16 for "wherein the at least one instruction includes a plurality of instructions, and wherein the instructions of the plurality of instructions are adapted to be executed in a coordinated fashion in accordance with a computer program based on an algorithm".

The appellant, respectfully, points out that the rejection of appealed claim 16 has not provided any demonstration that the additional subject matter defined by appealed claim 16 for "wherein the at least one instruction includes a plurality of instructions, and wherein the instructions of the plurality of instructions are adapted to be executed in a coordinated fashion in accordance with a computer program based on an algorithm" can be found within David et al. The rejection to appealed claim 16 does not even discuss the additional subject matter defined by appealed claim 16.

Appealed claims 17, 30 and 42

Appealed claims 17, 30 and 42 depend from claims 9, 27 and 40 which the appellant has argued *supra* to be patentable under 35 U.S.C. §102(b) and not anticipated by David et al. The appellant maintains that claims 17, 30 and 42 are not unpatentable under 35 U.S.C. § 102(b). The appellant contends that David et al. do not teach or suggest additional subject matter defined by appealed claims 17, 30 and 42 "wherein the operands in a first instruction of the at least one instruction include indices pointing to elements of an array".

The appellant, respectfully, points out that the rejection of appealed claims 17, 30 and 42 has not provided any demonstration that the additional subject matter defined by appealed claims 17, 30 and 42 for "wherein the operands in a first instruction of the at least one instruction include indices pointing to elements of an array" can be found within David et al. The rejection to appealed claims 17, 30 and 42 does not even discuss the additional subject matter defined by appealed claims 17, 30 and 42.

Appealed claims 18, 31 and 43

Appealed claims 18, 31, and 43 depend from claims 17, 30 and 42 which the appellant has argued *supra* to be patentable under 35 U.S.C. §102(b) and not anticipated by David et al. The appellant maintains that claims 18, 31, and 43 are not unpatentable under 35 U.S.C. § 102(b). The appellant contends that David et al. does not teach or suggest additional subject matter defined by appealed claims 18, 31, and 43 "wherein the condition denoted in the first instruction includes a dependence one at least one of said indices".

The appellant, respectfully, points out that the rejection of appealed claims 18, 31, and 43 has not provided any demonstration that the additional subject matter defined by appealed claims 18, 31, and 43 for "wherein the condition denoted in the first instruction includes a dependence one at least one of said indices" can be found within David et al. The rejection to appealed claims 18, 31, and 43 does not even discuss the additional subject matter defined by appealed claims 18, 31, and 43.

Appealed claims 19, 32 and 44

Appealed claims 19, 32, and 44 depend from claims 17, 30 and 42 which the appellant has argued *supra* to be patentable under 35 U.S.C. §102(b) and not anticipated by David et al. The appellant maintains that claims 19, 32, and 44 are not unpatentable under 35 U.S.C. § 102(b). The appellant contends that David et al. do not teach or suggest additional subject matter defined by appealed claims 19, 32, and 44 "wherein the operation denoted in the first instruction is an arithmetic operation".

In the Office Action mailed 09/24/2002 that the examiner has incorporated by reference into the Final Office Action mailed 03/11/2003, in which the examiner states: "the examiner takes official notice that conditional and arithmetic code can be generated used together in addition, can be used on the same statement list or to utilize arithmetic and if then even else statements, used together, as is known in programming data structures, therefore, if David is determined to not suggest the utilization of for example. If then, which is conditional, in combination with arithmetic operators, if x=1 then {perform a calculation}, would have been obvious to programmers {one skilled in the art}, to utilize more complex data programming data structures incorporating conditionals and arithmetic operations, as is well known to those in the art."

In response, the appellant contends that the preceding argument by the examiner does not overcome appellants argument *supra* against anticipation regarding claims 9, 27, and 40. That is, to incorporate "an operation portion denoting an [arithmetic] operation" into the conditional instruction in the Conditional List of FIG. 6 of David et al. would negate the data structure of David et al., namely the list scheme, which underlies David et al. mechanism for storing and executing instructions. The data structure and list scheme is the foundation of the teachings contained within David et al. for a less complex apparatus. Incorporation of "an operation portion denoting an [arithmetic] operation" into the conditional instruction in the Conditional List of FIG. 6 is inconsistent with the data structure and list scheme of David et al., invention.

Appealed claims 20, 33 and 45

Appealed claims 20, 33, and 45 depend from claims 19, 32, and 44 which the appellant has argued *supra* to be patentable under 35 U.S.C. §102(b) and not anticipated by David et al. The appellant maintains that claims 20, 33, and 45 are not unpatentable under 35 U.S.C. § 102(b). The appellant contends that David et al. do not teach or suggest additional subject matter defined by appealed claims 20, 33, and 45 "wherein an index of said indices points to an element E of said array, and wherein the condition is $E > 0$, $E < 0$, or $E = 0$ ".

The appellant, respectfully, points out that the rejection of appealed claims 20, 33, and 45 has not provided any demonstration that the additional subject matter defined by appealed claims 20, 33, and 45 for "wherein an index of said indices points to an element E of said array, and wherein the condition is $E > 0$, $E < 0$, or $E = 0$ " can be found within David et al. The rejection to appealed claims 20, 33, and 45 does not even discuss the additional subject matter defined by appealed claims 20, 33, and 45.

Appealed claims 21, 34 and 46

Appealed claims 21, 34 and 46 depend from claims 19, 32, and 44 which the appellant has argued *supra* to be patentable under 35 U.S.C. §102(b) and not anticipated by David et al. The appellant maintains that claims 20, 33, and 45 are not unpatentable under 35 U.S.C. § 102(b). The appellant contends that David et al. do not teach or suggest additional subject matter defined by appealed claims 21, 34 and 46 "wherein a first index of said indices

point to a first element E_1 of said array, wherein a second index of said indices point to a second element E_2 of said array, and wherein the condition is $E_1 > E_2$, $E_1 < E_2$, or $E_1 = E_2$ ".

The appellant, respectfully, points out that the rejection of appealed claims 21, 34 and 46 has not provided any demonstration that the additional subject matter defined by appealed claims 21, 34 and 46 for "wherein a first index of said indices point to a first element E_1 of said array, wherein a second index of said indices point to a second element E_2 of said array, and wherein the condition is $E_1 > E_2$, $E_1 < E_2$, or $E_1 = E_2$ " can be found within David et al. The rejection to appealed claims 21, 34 and 46 does not even discuss the additional subject matter defined by appealed claims 21, 34 and 46.

Appealed claims 22, 35 and 47

Appealed claims 22, 35 and 47 depend from claims 17, 30, and 42, respectively, which the appellant has argued *supra* to be patentable under 35 U.S.C. §102(b) and not anticipated by David et al. The appellant maintains that claims 22, 35 and 47 are not unpatentable under 35 U.S.C. § 102(b). The appellant contends that David et al. do not teach or suggest additional subject matter defined by appealed claims 22, 35 and 47 "wherein the operation denoted in the first instruction is a logical operation".

The appellant, respectfully, points out that the rejection of appealed claims 21, 34 and 46 has not provided any demonstration that the additional subject matter defined by appealed claims 21, 34 and 46 for "wherein the operation denoted in the first instruction is a logical operation" can be found within David et al. The rejection to appealed claims 22, 35 and 47 does not even discuss the additional subject matter defined by appealed claims 22, 35 and 47.

Appealed claims 23 36 and 48

Appealed claims 23, 36 and 48 depend from claims 17, 30, and 42, respectively, which the appellant has argued *supra* to be patentable under 35 U.S.C. §102(b) and not anticipated by David et al. The appellant maintains that claims 23, 36 and 48 are not unpatentable under 35 U.S.C. § 102(b). The appellant contends that David et al. do not teach or suggest additional subject matter defined by appealed claims 23, 36 and 48 "wherein the operation denoted in the first instruction is an assignment operation".

The appellant, respectfully, points out that the rejection of appealed claims 23, 36 and 48 has not provided any demonstration that the additional subject matter defined by appealed claims 23, 36 and 48 for "wherein the operation denoted in the first instruction is an assignment operation" can be found within David et al. The rejection to appealed claims 23, 36 and 48 does not even discuss the additional subject matter defined by appealed claims 23, 36 and 48.

Appealed claims 24, 37 and 49

Appealed claims 24, 37 and 49 depend from claims 23, 36, and 48, respectively, which the appellant has argued *supra* to be patentable under 35 U.S.C. §102(b) and not anticipated by David et al. The appellant maintains that claims 24, 37 and 49 are not unpatentable under 35 U.S.C. § 102(b). The appellant contends that David et al. do not teach or suggest additional subject matter defined by appealed claims 24, 37 and 49 "wherein the operands in the first instruction further includes a constant adapted to be inserted by the first instruction into at least one element of said array".

The appellant, respectfully, points out that the rejection of appealed claims 24, 37 and 49 has not provided any demonstration that the additional subject matter defined by appealed claims 24, 37 and 49 for "wherein the operands in the first instruction further includes a constant adapted to be inserted by the first instruction into at least one element of said array" can be found within David et al. The rejection to appealed claims 24, 37 and 49 does not even discuss the additional subject matter defined by appealed claims 24, 37 and 49.

Appealed claims 25, 38 and 50

Appealed claims 25, 38 and 50 depend from claims 17, 30, and 42, respectively, which the appellant has argued *supra* to be patentable under 35 U.S.C. §102(b) and not anticipated by David et al. The appellant maintains that claims 25, 38 and 50 are not unpatentable under 35 U.S.C. § 102(b). The appellant contends that David et al. do not teach or suggest additional subject matter defined by appealed claims 25, 38 and 50 "wherein the operation denoted in the first instruction is a jump operation, wherein a jump adapted to be executed by the jump operation is a jump to a list adapted to be next executed".

The appellant, respectfully, points out that the rejection of appealed claims 25, 38 and 50 has not provided any demonstration that the additional subject matter defined by appealed

claims 25, 38 and 50 for "wherein the operation denoted in the first instruction is a jump operation, wherein a jump adapted to be executed by the jump operation is a jump to a list adapted to be next executed" can be found within David et al. The rejection to appealed claims 25, 38 and 50 does not even discuss the additional subject matter defined by appealed claims 25, 38 and 50.

Appealed claims 26, 39 and 51

Appealed claims 26, 39 and 51 depend from claims 17, 30, and 42, respectively, which the appellant has argued *supra* to be patentable under 35 U.S.C. §102(b) and not anticipated by David et al. The appellant maintains that claims 26, 39 and 51 are not unpatentable under 35 U.S.C. § 102(b). The appellant contends that David et al. do not teach or suggest additional subject matter defined by appealed claims 26, 39 and 51 "wherein the operation denoted in the first instruction is a wait operation".

The appellant, respectfully, points out that the rejection of appealed claims 26, 39 and 51 has not provided any demonstration that the additional subject matter defined by appealed claims 26, 39 and 51 for "wherein the operation denoted in the first instruction is a wait operation" can be found within David et al. The rejection to appealed claims 26, 39 and 51 does not even discuss the additional subject matter defined by appealed claims 26, 39 and 51.

Appealed Claim 28

Appealed claim 28 depends from claim 27, which the appellant has argued *supra* to be patentable under 35 U.S.C. §102(b) and not anticipated by David et al. The appellant maintains that claim 28 is not unpatentable under 35 U.S.C. § 102(b). The appellant contends that David et al. do not teach or suggest additional subject matter defined by appealed claim 28 "wherein the processor comprises a single interpreter which is adapted to process the play control data, the selection control data and the variable control data sequentially".

The appellant, respectfully, points out that the rejection of appealed claim 28 has not provided any demonstration that the additional subject matter defined by appealed claim 28 "wherein the processor comprises a single interpreter which is adapted to process the play control data, the selection control data and the variable control data sequentially" can be found

within David et al. The rejection to appealed claim 28 does not even discuss the additional subject matter defined by appealed claim 28.

II. The rejection of appealed claims 9-51 under the provisions of 35 U.S.C. §103(a) as being obvious over David et al.

A. The rejection under U.S.C. §103(a)

Appealed claims 9-51 stand rejected under the provisions of 35 U.S.C. §103(a) as being obvious over David et al. (International Publication No. WO 98/09290). The examiner's position is that it would have been obvious for a person of ordinary skill within the art to modify the data structures taught by David et al. to create the invention defined by appealed claims 9-51. Three basic criteria must be met to establish a *prima facie* case of obviousness. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

In the Office Action mailed 09/24/2002, which the examiner has incorporated by reference into the Final Office Action mailed 03/11/2003, the examiner takes official notice that conditional and arithmetic code can be used together, can be used on the same statement list or to utilize arithmetic and if then even else statements, used together, as is known in programming data structures, therefore, if David et al. is determined to not suggest the utilization of, for example if-then statements, which is conditional, in combination with arithmetic operators, if x=1 then {perform a calculation}, it would have been obvious to programmers {one skilled in the art}, to utilize more complex data programming data structures incorporating conditionals and arithmetic operations, as is well known to those in the art.

In response, the appellant contends that the preceding argument by the examiner the appellant, respectfully, assert that such as assertion as the official notice reproduced above

that has been taken by the examiner, inherently requires citation of a prior art reference. The appellant respectfully draws attention to the MPEP §2144.03 wherein it is clearly stated that it “would not be appropriate for the examiner to take official notice of facts without citing a prior art reference where the facts asserted to be well known are not capable of instant and unquestionable demonstration as being well-known. For example, assertions of technical facts in the areas of esoteric technology or specific knowledge of the prior art must always be supported by citation to some reference work recognized as standard in the pertinent art. *In re Ahlert*, 424 F.2d at 1091, 165 USPQ at 420-21.” As argued throughout this appeal, David et al. does not disclose or suggest the subject matter defined by the appealed claims. Clearly the subject matter defined by the appealed claims is not capable of instant and unquestionable demonstration as being well-known. The examiner has not produced a single reference that shows, or suggests the subject matter defined by the appealed claims. Specific programming instructions that are more complicated than those disclosed, or suggested by cited prior art reference, David et al. are clearly esoteric technology and assertions that these more complicated programming instructions are well known must be supported by a citation to some reference work recognized as standard in the pertinent art. Accordingly, the appellant requests that the examiner produce a citation to some reference work recognized as standard in the pertinent art that clearly illustrates the subject matter that the examiner asserts is well known is actually well known.

The appellant respectfully contends that the examiner’s position regarding the subject matter of the appealed claims being well known is in error. The rejection to the appealed claims does not provide any citation to a prior art reference that discloses or suggests implementing a conditional instruction that includes an operation code denoting an operation and a condition portion denoting a condition, wherein the operation is to be executed if the condition is TRUE, wherein the operation is not to be executed if the condition is FALSE, and wherein the operation is adapted to be performed in conjunction with at least one of the operands. The appellant, respectfully, contends that this foregoing subject matter is not well known. The appellant further, respectfully, contends that the rejection attempts to use the assertion that the subject matter defined by the appealed claims is well known for more than “filling the gaps” and instead attempts to use the assertion that the subject matter of the appealed claims is well known to cover a substantial portion of the appealed claims. The MPEP at §2144.03 cites the court statement that it “is never appropriate to rely solely on ‘common knowledge’ in the art without

evidentiary support in the record, as the principal evidence upon which a rejection was based.” *Zurko*, 258 F.3d at 1385, 59 USPQ2d at 1697. Here, the rationale is that the Board cannot reach conclusions based on its own understanding on its assessment of what would be basic knowledge or common sense. Therefore, the assertion that the subject matter of the appealed claims is well known contained within the rejection is in error.

B. The reference

The only reference applied against appealed claims 9-51 is David et al. (International Publication Number WO 98/09290) that was extensively discussed in the rejection under the provisions of 35 U.S.C. §102(a), *supra*. David et al., as previously discussed, teach a record carrier and apparatus for reproducing audio/video information by the use of control structures. The processing power and complexity of the record carrier and apparatus taught by David et al. is kept low by the use of control structures in the form of lists (see Abstract). Executable instructions are contained in various types of lists as illustrated in Figures 5-10 and described on page 7, line 13 - page 11, line 4. The Conditional Lists illustrated in Figure 6, and described on page 9, lines 10-18, of David et al. describe a conditional instruction syntax that includes bits which represent the condition portion. The list shown in Figure 6 of David et al. (and indeed all the lists illustrated in Figures 5-10) represents a series of computer instructions that are performed in sequence. It should be noted that there is no disclosure or suggestion within David et al. for the complete listing of any of the lists illustrated in Figures 5-10 to be contained within a single instruction. Figure 6 of David et al. shows a conditional_list_header that defines the condition that is to be checked, a 24 bit operand that defines operands for the condition within the conditional_list_header, and the list in Figures 6 is completed by an if-then-else configuration including a true_list_offset and a false_list_offset. The appellant contends that the list shown in Figure 6 of David et al. comprises a series of instructions that are intended to be sequentially performed. In fact, even after a resulting branch is made to the locations indicated by pointer offset values, true_list_offset or false_list_offset, the resulting operation has still not been performed.

The conditional instruction syntax shown in Figure 6 of David et al. does not include "an operation portion denoting an operation" that is to be performed dependent on the

result of the condition. David et al. teach an if-then-else format whereby different list offsets identify the branch location responsive to the result of the condition. If the condition is true, `true_list_offset` indicates the branch destination, if the condition is false, `false_list_offset` indicates the branch destination. David et al. do not teach, disclose, suggest or provide any motivation for a person skilled in the art to provide the operation to be executed within the conditional instruction shown in Figure 6. The conditional instruction shown by David et al. in Figure 6 clearly illustrates that the operation to be executed is contained in another location identified by "true_list_offset" if the operation is TRUE, or "false_list_offset" if the operation is FALSE. Note that David et al. do not teach or suggest "an operation portion denoting an operation" be included in **the same instruction** that comprises "a condition portion denoting a condition".

The appellant, respectfully, points out that David et al. do not suggest a modification of the subject matter taught therein to create "an operation portion is denoting an operation" within the conditional instruction shown in the Conditional List of Figure 6. The list of Figure 6 (and indeed all of the lists shown in Figures 5-10) provides offsets that are pointers to specific areas. The list in Figure 6 lends itself to easy modification by altering the values of the offsets in a manner well known within the art by using offset values as variable. The list in Figure 6 does not suggest to a person skilled in the art that more complicated instructions would be desirable or even operative within the list. David et al. provides motivation for a person skilled in the art to employ lists to reduce complexity and computational overhead, and increase flexibility for a record carrier and apparatus (see page 2, lines 13-16).

It should be noted that it would be contrary to the teaching of David et al. to employ instructions that are more complicated because to do so would negate and destroy the data structure taught therein. The list scheme as taught by David et al. underlies the mechanism for storing and executing instructions as envisioned by David et al. The data structure and list scheme form the foundation of the simplified and less complex apparatus taught by David et al. Simply put, incorporation of "an operation portion denoting an operation" into the conditional instruction in the Conditional List of Figure 6 of David et al. is inconsistent with the data structure and list scheme of David et al., and is effectively incompatible with the simplified apparatus that is taught therein.

C. The differences between the invention and the reference

Appealed claims 9, 27 and 40

The rejection to appealed claims 9, 27 and 40 asserts that the subject matter defined by appealed claims 9, 27 and 40 is obvious in view of cited reference David et al. (International Publication Number WO 98/09290).

It is the appellant's position that claims 9, 27, and 40 are not obvious in view of David et al. The Appellant contends that the subject matter defined by claims 9, 27, and 40 are not disclosed or suggested by David et al.

The appellant respectfully points out that David et al. do not disclose or suggest a conditional instruction that includes an operation code and operands, wherein the operation code includes an operation portion denoting an operation and a condition portion denoting a condition, wherein the operation is to be executed if the condition is TRUE, wherein the operation is not to be executed if the condition is FALSE, and wherein the operation is adapted to be performed in conjunction with at least one of the operands.

David et al. in Figures 5-10 teach executable instructions contained in various types of lists. The Conditional Lists disclosed in of Figure 6, and described on page 9, lines 10-18 of David et al., teach branch operations identified by lists, as previously discussed. The conditional instruction syntax shown in Figure 6 of David et al. teach operands that represent a condition portion, however, the conditional instruction syntax shown in Figure 6 of David et al. makes no mention of "an operation portion denoting an operation" to be performed responsive to the result of the condition. David et al. teach that the operation to be next executed is not contained within the conditional instruction shown in Figure 6, but is instead present in another location pointed to by offsets. In the conditional instruction shown in Figure 6, the location of the operation that will be executed next is identified by "true_list_offset" if the operation is TRUE, and identified by "false_list_offset" if the operation is FALSE. Alternatively, if the branching destinations indicated by either the "true_list_offset" or the "false_list_offset" are viewed as operations, these offsets still do not exist within the same conditional instruction denoting the condition as required by appealed claims 9, 27, and 40.

The subject matter defined by appealed claims 9, 27, and 40 requires that "an operation portion denoting an operation" be included in the same instruction having "a condition

portion denoting a condition", which is not disclosed or suggested by David et al. Furthermore, there is no motivation supplied by David et al. for a person skilled in the art to modify the teachings of by David et al. to create the subject matter defined by appealed claims 9, 27, and 40. The teaching of David et al., as previously discussed, is explicitly directed towards creating a system that is less complex yet flexible and requiring less computational overhead. There is no mention or motivation within David et al. for creating an apparatus or record carrier that employs a more complicated instruction as defined by appealed claims 9, 27, and 40. In fact the record carrier and apparatus taught by David et al. should be viewed as teaching away from the subject matter defined by appealed claims 9, 27, and 40, because appealed claims 9, 27, and 40 defines a more complicated data structure than the lists that are taught by David et al. A more complicated data structure requires more computational sophistication, which is exactly the opposite of the direction of David et al. Therefore, the subject matter defined by appealed claims 9, 27, and 40 is not taught or suggested by David et al.

David et al. do not provide any reasonable expectation for success for the modification required to record carrier and apparatus taught therein to arrive at the subject matter defined by appealed claims 9, 27, and 40. The subject matter defined by appealed claims 9, 27, and 40 is for "an operation portion denoting an operation" included in the same instruction having "a condition portion denoting a condition" which, as previously discussed, is contradictory to the teaching of David et al. The disclosure of David et al. does not make any mention for including an operation portion being contained within the same instruction as "a condition portion denoting a condition". A person skilled would not be envision from viewing the disclosure of David et al. the creation of the subject matter defined by appealed claims 9, 27, and 40 would be a successful endeavor. The subject matter for "an operation portion denoting an operation" included in the same instruction having "a condition portion denoting a condition" defined by appealed claims 9, 27, and 40 does not function as a list but as a single instruction. The incorporation of "an operation portion denoting an operation" into the conditional instruction in the Conditional List of Figure 6 of David et al. is completely contrary to the data structure taught by David et al. and does not lead to a reasonable expectation of success. David et al. employ a list scheme as the underlying mechanism for instructions to produce a less complex manner of operation which does not provide a reasonable expectation of success for the more complicated subject matter defined by claims 9, 27, and 40.

Appellant further notes that all the elements of the subject matter defined by claims 9, 27, and 40 are not found within David et al. The rejection to claims 9, 27, and 40 does not present an analysis showing all the features defined by claims 9, 27, and 40 within David et al. Specifically, the subject matter for "an operation portion denoting an operation" included in the same instruction having "a condition portion denoting a condition" are not found within David et al. Moreover, the rejection does not provide any motivation from David et al. to make the modification to the subject matter taught therein to arrive at the subject matter defined by claims 9, 27, and 40 with respect to "an operation portion denoting an operation" required to be in the same instruction that comprises "a condition portion denoting a condition".

Appealed claims 10, 29 and 41

The rejection to appealed claims 10, 29, and 41 asserts that the subject matter defined by appealed claims 10, 29, and 41 is obvious in view of cited reference David et al. (International Publication Number WO 98/09290). It is the appellant's position that claims 10, 29, and 41 are not obvious in view of David et al.

The Appellant contends that the subject matter defined by claims 10, 29, and 41 are not disclosed or suggested by David et al. Appealed claims 10, 29, and 41 depend from claims 9, 27, and 40, respectively, which the Appellant has argued *supra* to be patentable under 35 U.S.C. §103(a). The Appellant maintains that claims 10, 29, and 41 are not unpatentable under 35 U.S.C. §103(a) as being obvious in view of David et al.

The Appellant contends that claims 10, 29, and 41 are not unpatentable under 35 U.S.C. §103(a), because David et al. do not disclose or suggest every feature of appealed claims 10, 29, and 41. Specifically appealed claims 10, 29, and 41 define subject matter for "at least one instruction is embedded in a Command List comprising a Command List Header which precedes the at least one instruction, and wherein the Command List further comprises an unconditional goto which points to a next list to be executed following execution of said Command List". It should be noted that Figure 6 of David et al. provides offsets (as previously discussed) that are effectively "conditional" goto statements. Appealed claims 10, 29, and 41, specifically define subject matter that is additional subject matter to the conditional instruction defined by appealed claims 10, 29, and 41. This additional subject matter is not disclosed or suggested by David et al.

Furthermore, the appellant contends that the rejection of claims 10, 29, and 41 has not provided any motivation within David et al. to modify the lists taught therein to create the subject matter defined by appealed claims 10, 29, and 41. Neither has the rejection of claims 10, 29, and 41 provided any reasonable expectation of success to be derived from David et al. for creating a record carrier or apparatus that contains the additional subject matter defined by appealed claims 10, 29, and 41

Therefore, since there is additional subject matter defined by appealed claims 10, 29, and 41 that is not found within David et al., furthermore since there is motivation found within David et al. to modify the teachings therein to arrive at the invention as defined by appealed claims 10, 29, and 41, and still further since no reasonable expectation of success is found within David et al. to create the subject matter defined by appealed claims 10, 29, and 41, defined by appealed claims 10, 29, and 41 are not obvious in view of David et al.

Appealed claim 11

The rejection to appealed claim 11 asserts that the subject matter defined by appealed claim 11 is obvious in view of cited reference David et al. (International Publication Number WO 98/09290). It is the appellant's position that appealed claim 11 is not obvious in view of David et al.

The Appellant contends that the subject matter defined by appealed claim 11 is not disclosed or suggested by David et al. Appealed claim 11 depends from claim 10, which the appellant has argued *supra* to be patentable under 35 U.S.C. §103(a). The Appellant maintains that appealed claim 11 is not unpatentable under 35 U.S.C. §103(a) as being obvious in view of David et al.

The Appellant contends that appealed claim 11 is not unpatentable under 35 U.S.C. §103(a), because David et al. do not disclose or suggest every feature of appealed claim 11. Specifically appealed claim 11 defines subject matter for "wherein the next list is another Command List". This additional subject matter is not disclosed or suggested by David et al.

Furthermore, the appellant contends that the rejection of appealed claim 11 has not provided any motivation within David et al. to modify the lists taught therein to create the subject matter defined by appealed claim 11. Neither has the rejection of appealed claim 11 provided any reasonable expectation of success to be derived from David et al. for creating a

record carrier or apparatus that contains the additional subject matter defined by appealed claim 11.

Therefore, since there is additional subject matter defined by appealed claim 11 that is not found within David et al., furthermore since there is motivation found within David et al. to modify the teachings therein to arrive at the invention as defined by appealed claim 11, and still further since no reasonable expectation of success is found within David et al. to create the subject matter defined by appealed claim 11, appealed claim 11 is not obvious in view of David et al.

Appealed claim 12

The rejection to appealed claim 12 asserts that the subject matter defined by appealed claim 12 is obvious in view of cited reference David et al. (International Publication Number WO 98/09290). It is the appellant's position that appealed claim 12 is not obvious in view of David et al.

The Appellant contends that the subject matter defined by appealed claim 12 is not disclosed or suggested by David et al. Appealed claim 12 depends from claim 10, which the appellant has argued *supra* to be patentable under 35 U.S.C. §103(a). The Appellant maintains that appealed claim 12 is not unpatentable under 35 U.S.C. §103(a) as being obvious in view of David et al.

The Appellant contends that appealed claim 12 is not unpatentable under 35 U.S.C. §103(a), because David et al. do not disclose or suggest every feature of appealed claim 12. Specifically appealed claim 12 defines subject matter for "wherein the next list is not another Command List". This additional subject matter is not disclosed or suggested by David et al.

Furthermore, the appellant contends that the rejection of appealed claim 12 has not provided any motivation within David et al. to modify the lists taught therein to create the subject matter defined by appealed claim 12. Neither has the rejection of appealed claim 12 provided any reasonable expectation of success to be derived from David et al. for creating a record carrier or apparatus that contains the additional subject matter defined by appealed claim 12.

Therefore, since there is additional subject matter defined by appealed claim 12 that is not found within David et al., furthermore since there is motivation found within David et

al. to modify the teachings therein to arrive at the invention as defined by appealed claim 12, and still further since no reasonable expectation of success is found within David et al. to create the subject matter defined by appealed claim 12, appealed claim 12 is not obvious in view of David et al.

Appealed claim 13

The rejection to appealed claim 13 asserts that the subject matter defined by appealed claim 13 is obvious in view of cited reference David et al. (International Publication Number WO 98/09290). It is the appellant's position that appealed claim 13 is not obvious in view of David et al.

The Appellant contends that the subject matter defined by appealed claim 13 is not disclosed or suggested by David et al. Appealed claim 13 depends from claim 10, which the appellant has argued *supra* to be patentable under 35 U.S.C. §103(a). The Appellant maintains that appealed claim 13 is not unpatentable under 35 U.S.C. §103(a) as being obvious in view of David et al.

The Appellant contends that appealed claim 13 is not unpatentable under 35 U.S.C. §103(a), because David et al. do not disclose or suggest every feature of appealed claim 13. Specifically appealed claim 13 defines subject matter for "wherein the Command List does not include any other instruction apart from the unconditional goto". This additional subject matter is not disclosed or suggested by David et al.

Furthermore, the appellant contends that the rejection of appealed claim 13 has not provided any motivation within David et al. to modify the lists taught therein to create the subject matter defined by appealed claim 13. Neither has the rejection of appealed claim 13 provided any reasonable expectation of success to be derived from David et al. for creating a record carrier or apparatus that contains the additional subject matter defined by appealed claim 13.

Therefore, since there is additional subject matter defined by appealed claim 13 that is not found within David et al., furthermore since there is motivation found within David et al. to modify the teachings therein to arrive at the invention as defined by appealed claim 13, and still further since no reasonable expectation of success is found within David et al. to create the

subject matter defined by appealed claim 13, appealed claim 13 is not obvious in view of David et al.

Appealed claim 14

The rejection to appealed claim 14 asserts that the subject matter defined by appealed claim 14 is obvious in view of cited reference David et al. (International Publication Number WO 98/09290). It is the appellant's position that appealed claim 14 is not obvious in view of David et al.

The Appellant contends that the subject matter defined by appealed claim 14 is not disclosed or suggested by David et al. Appealed claim 14 depends from claim 10, which the appellant has argued *supra* to be patentable under 35 U.S.C. §103(a). The Appellant maintains that appealed claim 14 is not unpatentable under 35 U.S.C. §103(a) as being obvious in view of David et al.

The Appellant contends that appealed claim 14 is not unpatentable under 35 U.S.C. §103(a), because David et al. do not disclose or suggest every feature of appealed claim 14. Specifically appealed claim 14 defines subject matter for "wherein the play control data is embedded in Play Lists, the Play Lists comprising at least a Play List Header as a first item and at least one Play Item representing playable user data and at least one reference to a further List; wherein the selection control data is embedded in Selection Lists, the Selection Lists comprising at least a Selection List Header, at least one reference corresponding to a user selection, the Headers being mutually different; and wherein the Command List includes a reference to a Play List of the Play Lists or a Selection List of the Selection Lists". This additional subject matter is not disclosed or suggested by David et al.

Furthermore, the appellant contends that the rejection of appealed claim 14 has not provided any motivation within David et al. to modify the lists taught therein to create the subject matter defined by appealed claim 14. Neither has the rejection of appealed claim 14 provided any reasonable expectation of success to be derived from David et al. for creating a record carrier or apparatus that contains the additional subject matter defined by appealed claim 14.

Therefore, since there is additional subject matter defined by appealed claim 14 that is not found within David et al., furthermore since there is motivation found within David et

al. to modify the teachings therein to arrive at the invention as defined by appealed claim 14, and still further since no reasonable expectation of success is found within David et al. to create the subject matter defined by appealed claim 14, appealed claim 14 is not obvious in view of David et al.

Appealed claim 15

The rejection to appealed claim 15 asserts that the subject matter defined by appealed claim 15 is obvious in view of cited reference David et al. (International Publication Number WO 98/09290). It is the appellant's position that appealed claim 15 is not obvious in view of David et al.

The Appellant contends that the subject matter defined by appealed claim 15 is not disclosed or suggested by David et al. Appealed claim 15 depends from claim 9, which the appellant has argued *supra* to be patentable under 35 U.S.C. §103(a). The Appellant maintains that appealed claim 15 is not unpatentable under 35 U.S.C. §103(a) as being obvious in view of David et al.

The Appellant contends that appealed claim 15 is not unpatentable under 35 U.S.C. §103(a), because David et al. do not disclose or suggest every feature of appealed claim 15. Specifically appealed claim 15 defines subject matter for "wherein the operation code and operands of each instruction are stored in a contiguous set of bytes". This additional subject matter is not disclosed or suggested by David et al.

Furthermore, the appellant contends that the rejection of appealed claim 15 has not provided any motivation within David et al. to modify the lists taught therein to create the subject matter defined by appealed claim 15. Neither has the rejection of appealed claim 15 provided any reasonable expectation of success to be derived from David et al. for creating a record carrier or apparatus that contains the additional subject matter defined by appealed claim 15.

Appealed claim 16

The rejection to appealed claim 16 asserts that the subject matter defined by appealed claim 16 is obvious in view of cited reference David et al. (International Publication

Number WO 98/09290). It is the appellant's position that appealed claim 16 is not obvious in view of David et al.

The Appellant contends that the subject matter defined by appealed claim 16 is not disclosed or suggested by David et al. Appealed claim 16 depends from claim 9, which the appellant has argued *supra* to be patentable under 35 U.S.C. §103(a). The Appellant maintains that appealed claim 16 is not unpatentable under 35 U.S.C. §103(a) as being obvious in view of David et al.

The Appellant contends that appealed claim 16 is not unpatentable under 35 U.S.C. §103(a), because David et al. do not disclose or suggest every feature of appealed claim 16. Specifically, appealed claim 16 defines subject matter for "wherein the at least one instruction includes a plurality of instructions, and wherein the instructions of the plurality of instructions are adapted to be executed in a coordinated fashion in accordance with a computer program based on an algorithm". The appellant, respectfully, points out that each of the plurality of instructions includes the operands within the conditional instruction as previously defined. This additional subject matter is not disclosed or suggested by David et al.

Furthermore, the appellant contends that the rejection of appealed claim 16 has not provided any motivation within David et al. to modify the lists taught therein to create the subject matter defined by appealed claim 16. Neither has the rejection of appealed claim 16 provided any reasonable expectation of success to be derived from David et al. for creating a record carrier or apparatus that contains the additional subject matter defined by appealed claim 16.

Appealed claims 17, 30 and 42

The rejection to appealed claims 17, 30 and 42 asserts that the subject matter defined by appealed claims 17, 30 and 42 is obvious in view of cited reference David et al. (International Publication Number WO 98/09290). It is the appellant's position that appealed claims 17, 30 and 42 are not obvious in view of David et al.

The appellant contends that the subject matter defined by appealed claims 17, 30 and 42 is not disclosed or suggested by David et al. Appealed claims 17, 30 and 42 depend from claims 9, 27 and 40, which the appellant has argued *supra* to be patentable under 35 U.S.C.

§103(a). The appellant maintains that appealed claims 17, 30 and 42 are not unpatentable under 35 U.S.C. §103(a) as being obvious in view of David et al.

The Appellant contends that appealed claims 17, 30 and 42 are not unpatentable under 35 U.S.C. §103(a), because David et al. do not disclose or suggest every feature of appealed claims 17, 30 and 42. Specifically, appealed claims 17, 30 and 42 define subject matter for "wherein the operands in a first instruction of the at least one instruction include indices pointing to elements of an array". This additional subject matter is not disclosed or suggested by David et al.

Furthermore, the appellant contends that the rejection of the additional subject matter for "wherein the operands in a first instruction of the at least one instruction include indices pointing to elements of an array" defined by appealed claims 17, 30 has not provided any motivation within David et al. to modify the lists taught therein to create this additional subject matter. Neither has the rejection of appealed claims 17, 30 and 42 provided any reasonable expectation of success to be derived from David et al. for creating a record carrier or apparatus that contains the additional subject matter defined by appealed claims 17, 30 and 42.

Appealed claims 18, 31 and 43

The rejection to appealed claims 18, 31, and 43 asserts that the subject matter defined by appealed claims 18, 31, and 43 is obvious in view of cited reference David et al. (International Publication Number WO 98/09290). It is the appellant's position that appealed claims 18, 31, and 43 are not obvious in view of David et al.

The appellant contends that the subject matter defined by appealed claims 18, 31, and 43 is not disclosed or suggested by David et al. Appealed claims 18, 31, and 43 depend from claims 17, 30 and 42, which the appellant has argued *supra* to be patentable under 35 U.S.C. §103(a). The appellant maintains that appealed claims 18, 31, and 43 are not unpatentable under 35 U.S.C. §103(a) as being obvious in view of David et al.

The Appellant contends that appealed claims 18, 31, and 43 are not unpatentable under 35 U.S.C. §103(a), because David et al. do not disclose or suggest every feature of appealed claims 18, 31, and 43. Specifically, appealed claims 18, 31, and 43 define subject matter for "wherein the condition denoted in the first instruction includes a dependence one at

least one of said indices". This additional subject matter is not disclosed or suggested by David et al.

Furthermore, the appellant contends that the rejection of the additional subject matter for "wherein the condition denoted in the first instruction includes a dependence one at least one of said indices" has not provided any motivation within David et al. to modify the lists taught therein to create this additional subject. Neither has the rejection of appealed claims 18, 31, and 43 provided any reasonable expectation of success to be derived from David et al. for creating a record carrier or apparatus that contains the additional subject matter defined by appealed claims 18, 31, and 43.

Appealed claims 19, 32 and 44

The rejection to appealed claims 19, 32, and 44 asserts that the subject matter defined by appealed claims 19, 32, and 44 is obvious in view of cited reference David et al. (International Publication Number WO 98/09290). It is the appellant's position that appealed claims 19, 32, and 44 are not obvious in view of David et al.

The appellant contends that the subject matter defined by appealed claims 19, 32, and 44 is not disclosed or suggested by David et al. Appealed 19, 32, and 44 depend from claims 17, 30 and 42, which the appellant has argued *supra* to be patentable under 35 U.S.C. §103(a). The appellant maintains that appealed claims 19, 32, and 44 are not unpatentable under 35 U.S.C. §103(a) as being obvious in view of David et al.

The Appellant contends that appealed claims 19, 32, and 44 are not unpatentable under 35 U.S.C. §103(a), because David et al. do not disclose or suggest every feature of appealed claims 19, 32, and 44. Specifically, appealed claims 19, 32, and 44 define subject matter for "wherein the operation denoted in the first instruction is an arithmetic operation". This additional subject matter is not disclosed or suggested by David et al. To incorporate "an operation portion denoting an [arithmetic] operation" into the conditional instruction in the Conditional List of FIG. 6 of David et al. would negate the data structure of David et al., namely the list scheme, which underlies David et al. mechanism for storing and executing instructions. The data structure and list scheme is the foundation of the teachings contained within David et al. for a less complex apparatus. Incorporation of "an operation portion denoting an [arithmetic] operation" into the conditional instruction in the Conditional List of FIG. 6 is inconsistent with

the data structure and list scheme of David et al. This additional subject matter is not disclosed or suggested by David et al.

Furthermore, the appellant contends that the rejection of the additional subject matter for "wherein the operation denoted in the first instruction is an arithmetic operation" defined by appealed claims 19, 32, and 44 has not provided any motivation within David et al. to modify the lists taught therein to create this additional subject matter. Neither has the rejection of appealed claims 19, 32, and 44 provided any reasonable expectation of success to be derived from David et al. for creating a record carrier or apparatus that contains the additional subject matter defined by appealed claims 19, 32, and 44.

Appealed claims 20, 33 and 45

The rejection to appealed claims 20, 33, and 45 asserts that the subject matter defined by appealed claims 20, 33, and 45 is obvious in view of cited reference David et al. (International Publication Number WO 98/09290). It is the appellant's position that appealed claims 20, 33, and 45 are not obvious in view of David et al.

The appellant contends that the subject matter defined by appealed claims 20, 33, and 45 is not disclosed or suggested by David et al. Appealed claims 20, 33, and 45 depend from claims 19, 32, and 44, which the appellant has argued *supra* to be patentable under 35 U.S.C. §103(a). The appellant maintains that appealed claims 20, 33, and 45 are not unpatentable under 35 U.S.C. §103(a) as being obvious in view of David et al.

The appellant contends that appealed claims 20, 33, and 45 are not unpatentable under 35 U.S.C. §103(a), because David et al. do not disclose or suggest every feature of appealed claims 20, 33, and 45. Specifically, appealed claims 20, 33, and 45 define subject matter for "wherein an index of said indices points to an element E of said array, and wherein the condition is $E > 0$, $E < 0$, or $E = 0$ ". This additional subject matter is not disclosed or suggested by David et al. To incorporate "wherein an index of said indices points to an element E of said array, and wherein the condition is $E > 0$, $E < 0$, or $E = 0$ " into the conditional instruction in the Conditional List of FIG. 6 of David et al. would negate the data structure of David et al., namely the list scheme of David et al. only has TRUE or FALSE as conditions. The data structure and list scheme within David et al. is intend for a less complex apparatus. Incorporation of "an index of said indices points to an element E of said array, and wherein the condition is $E > 0$, $E < 0$, or

E=0" into the conditional instruction in the Conditional List of FIG. 6 is inconsistent with the data structure and list scheme of David et al. This additional subject matter is not disclosed or suggested by David et al.

Furthermore, the appellant contends that the rejection of the additional subject matter for "wherein an index of said indices points to an element E of said array, and wherein the condition is $E > 0$, $E < 0$, or $E = 0$ " defined by appealed claims 20, 33, and 45 has not provided any motivation within David et al. to modify the lists taught therein to create this additional subject matter. Neither has the rejection of appealed claims 20, 33, and 45 provided any reasonable expectation of success to be derived from David et al. for creating a record carrier or apparatus that contains the additional subject matter defined by appealed claims 20, 33, and 45.

Appealed claims 21, 34 and 46

The rejection to appealed claims 21, 34 and 46 asserts that the subject matter defined by appealed claims 21, 34 and 46 is obvious in view of cited reference David et al. (International Publication Number WO 98/09290). It is the appellant's position that appealed claims 21, 34 and 46 are not obvious in view of David et al.

The appellant contends that the subject matter defined by appealed claims 21, 34 and 46 is not disclosed or suggested by David et al. Appealed claims 21, 34 and 46 depend from claims 19, 32, and 44, which the appellant has argued *supra* to be patentable under 35 U.S.C. §103(a). The appellant maintains that appealed claims 21, 34 and 46 are not unpatentable under 35 U.S.C. §103(a) as being obvious in view of David et al.

The appellant contends that appealed claims 21, 34 and 46 are not unpatentable under 35 U.S.C. §103(a), because David et al. do not disclose or suggest every feature of appealed claims 21, 34 and 46. Specifically, appealed claims 21, 34 and 46 define subject matter for "wherein a first index of said indices point to a first element E_1 of said array, wherein a second index of said indices point to a second element E_2 of said array, and wherein the condition is $E_1 > E_2$, $E_1 < E_2$, or $E_1 = E_2$ ". This additional subject matter is not disclosed or suggested by David et al. To incorporate "wherein a first index of said indices point to a first element E_1 of said array, wherein a second index of said indices point to a second element E_2 of said array, and wherein the condition is $E_1 > E_2$, $E_1 < E_2$, or $E_1 = E_2$ " into the conditional instruction in the Conditional List of FIG. 6 of David et al. would negate the data structure of David et al.,

namely the list scheme of David et al. only has TRUE or FALSE as conditions. The data structure and list scheme within David et al. is intend for a less complex apparatus.

Incorporation of "wherein a first index of said indices point to a first element E_1 of said array, wherein a second index of said indices point to a second element E_2 of said array, and wherein the condition is $E_1 > E_2$, $E_1 < E_2$, or $E_1 = E_2$ " into the conditional instruction in the Conditional List of FIG. 6 is inconsistent with the data structure and list scheme of David et al. This additional subject matter is not disclosed or suggested by David et al.

Furthermore, the appellant contends that the rejection of the additional subject matter for "wherein a first index of said indices point to a first element E_1 of said array, wherein a second index of said indices point to a second element E_2 of said array, and wherein the condition is $E_1 > E_2$, $E_1 < E_2$, or $E_1 = E_2$ " defined by appealed claims 21, 34 and 46 has not provided any motivation within David et al. to modify the lists taught therein to create this additional subject matter. Neither has the rejection of appealed claims 21, 34 and 46 provided any reasonable expectation of success to be derived from David et al. for creating a record carrier or apparatus that contains the additional subject matter defined by appealed claims 21, 34 and 46.

Appealed claims 22, 35 and 47

The rejection to appealed claims 22, 35 and 47 asserts that the subject matter defined by appealed claims 22, 35 and 47 is obvious in view of cited reference David et al. (International Publication Number WO 98/09290). It is the appellant's position that appealed claims 22, 35 and 47 are not obvious in view of David et al.

The appellant contends that the subject matter defined by appealed claims 22, 35 and 47 is not disclosed or suggested by David et al. Appealed claims 22, 35 and 47 depend from claims 17, 30, and 42, which the appellant has argued *supra* to be patentable under 35 U.S.C. §103(a). The appellant maintains that appealed claims 22, 35 and 47 are not unpatentable under 35 U.S.C. §103(a) as being obvious in view of David et al.

The appellant contends that appealed claims 22, 35 and 47 are not unpatentable under 35 U.S.C. §103(a), because David et al. do not disclose or suggest every feature of appealed claims 22, 35 and 47. Specifically, appealed claims 22, 35 and 47 define subject matter for "wherein the operation denoted in the first instruction is a logical operation". This additional subject matter is not disclosed or suggested by David et al.

Furthermore, the appellant contends that the rejection of the additional subject matter for "wherein the operation denoted in the first instruction is a logical operation" defined by appealed claims 22, 35 and 47 has not provided any motivation within David et al. to modify the lists taught therein to create this additional subject matter. Neither has the rejection of appealed claims 22, 35 and 47 provided any reasonable expectation of success to be derived from David et al. for creating a record carrier or apparatus that contains the additional subject matter defined by appealed claims 22, 35 and 47.

Appealed claims 23 36 and 48

The rejection to appealed claims 23, 36 and 48 asserts that the subject matter defined by appealed claims 23, 36 and 48 is obvious in view of cited reference David et al. (International Publication Number WO 98/09290). It is the appellant's position that appealed claims 23, 36 and 48 are not obvious in view of David et al.

The appellant contends that the subject matter defined by appealed claims 23, 36 and 48 is not disclosed or suggested by David et al. Appealed claims 23, 36 and 48 depend from claims 17, 30, and 42, which the appellant has argued *supra* to be patentable under 35 U.S.C. §103(a). The appellant maintains that appealed claims 23, 36 and 48 are not unpatentable under 35 U.S.C. §103(a) as being obvious in view of David et al.

The appellant contends that appealed claims 23, 36 and 48 are not unpatentable under 35 U.S.C. §103(a), because David et al. do not disclose or suggest every feature of appealed claims 23, 36 and 48. Specifically, appealed claims 23, 36 and 48 define subject matter for "wherein the operation denoted in the first instruction is an assignment operation". This additional subject matter is not disclosed or suggested by David et al.

Furthermore, the appellant contends that the rejection of the additional subject matter for "wherein the operation denoted in the first instruction is a logical operation" defined by appealed claims 23, 36 and 48 has not provided any motivation within David et al. to modify the lists taught therein to create this additional subject matter. Neither has the rejection of appealed claims 23, 36 and 48 provided any reasonable expectation of success to be derived from David et al. for creating a record carrier or apparatus that contains the additional subject matter defined by appealed claims 23, 36 and 48.

Appealed claims 24, 37 and 49

The rejection to appealed claims 24, 37 and 49 asserts that the subject matter defined by appealed claims 24, 37 and 49 is obvious in view of cited reference David et al. (International Publication Number WO 98/09290). It is the appellant's position that appealed claims 23, 36 and 48 are not obvious in view of David et al.

The appellant contends that the subject matter defined by appealed claims 24, 37 and 49 is not disclosed or suggested by David et al. Appealed claims 24, 37 and 49 depend from claims 23, 36, and 48, which the appellant has argued *supra* to be patentable under 35 U.S.C. §103(a). The appellant maintains that appealed claims 24, 37 and 49 are not unpatentable under 35 U.S.C. §103(a) as being obvious in view of David et al.

The appellant contends that appealed claims 24, 37 and 49 are not unpatentable under 35 U.S.C. §103(a), because David et al. do not disclose or suggest every feature of appealed claims 24, 37 and 49. Specifically, appealed claims 24, 37 and 49 define subject matter for "wherein the operands in the first instruction further includes a constant adapted to be inserted by the first instruction into at least one element of said array". This additional subject matter is not disclosed or suggested by David et al.

Furthermore, the appellant contends that the rejection of the additional subject matter for "wherein the operation denoted in the first instruction is a logical operation" defined by appealed claims 24, 37 and 49 has not provided any motivation within David et al. to modify the lists taught therein to create this additional subject matter. Neither has the rejection of appealed claims 24, 37 and 49 provided any reasonable expectation of success to be derived from David et al. for creating a record carrier or apparatus that contains the additional subject matter defined by appealed claims 24, 37 and 49.

Appealed claims 25, 38 and 50

The rejection to appealed claims 25, 38 and 50 asserts that the subject matter defined by appealed claims 25, 38 and 50 is obvious in view of cited reference David et al. (International Publication Number WO 98/09290). It is the appellant's position that appealed claims 25, 38 and 50 are not obvious in view of David et al.

The appellant contends that the subject matter defined by appealed claims 25, 38 and 50 is not disclosed or suggested by David et al. Appealed claims 25, 38 and 50 depend from

claims 23, 36, and 48, which the appellant has argued *supra* to be patentable under 35 U.S.C. §103(a). The appellant maintains that appealed claims 25, 38 and 50 are not unpatentable under 35 U.S.C. §103(a) as being obvious in view of David et al.

The appellant contends that appealed claims 25, 38 and 50 are not unpatentable under 35 U.S.C. §103(a), because David et al. do not disclose or suggest every feature of appealed claims 25, 38 and 50. Specifically, appealed claims 25, 38 and 50 define subject matter for "wherein the operation denoted in the first instruction is a jump operation, wherein a jump adapted to be executed by the jump operation is a jump to a list adapted to be next executed". This additional subject matter is not disclosed or suggested by David et al.

Furthermore, the appellant contends that the rejection of the additional subject matter for "wherein the operation denoted in the first instruction is a jump operation, wherein a jump adapted to be executed by the jump operation is a jump to a list adapted to be next executed" defined by appealed claims 25, 38 and 50 has not provided any motivation within David et al. to modify the lists taught therein to create this additional subject matter. Neither has the rejection of appealed claims 25, 38 and 50 provided any reasonable expectation of success to be derived from David et al. for creating a record carrier or apparatus that contains the additional subject matter defined by appealed claims 25, 38 and 50.

Appealed claims 26, 39 and 51

The rejection to appealed claims 26, 39 and 51 asserts that the subject matter defined by appealed claims 26, 39 and 51 is obvious in view of cited reference David et al. (International Publication Number WO 98/09290). It is the appellant's position that appealed claims 25, 38 and 50 are not obvious in view of David et al.

The appellant contends that the subject matter defined by appealed claims 26, 39 and 51 is not disclosed or suggested by David et al. Appealed claims 26, 39 and 51 depend from claims 17, 30, and 42, which the appellant has argued *supra* to be patentable under 35 U.S.C. §103(a). The appellant maintains that appealed claims 26, 39 and 51 are not unpatentable under 35 U.S.C. §103(a) as being obvious in view of David et al.

The appellant contends that appealed claims 26, 39 and 51 are not unpatentable under 35 U.S.C. §103(a), because David et al. do not disclose or suggest every feature of appealed claims 26, 39 and 51. Specifically, appealed claims 26, 39 and 51 define subject matter

for "wherein the operation denoted in the first instruction is a wait operation". This additional subject matter is not disclosed or suggested by David et al.

Furthermore, the appellant contends that the rejection of the additional subject matter for "wherein the operation denoted in the first instruction is a wait operation" defined by appealed claims 26, 39 and 51 has not provided any motivation within David et al. to modify the lists taught therein to create this additional subject matter. Neither has the rejection of appealed claims 26, 39 and 51 provided any reasonable expectation of success to be derived from David et al. for creating a record carrier or apparatus that contains the additional subject matter defined by appealed claims 26, 39 and 51.

Appealed Claim 28

The rejection to appealed claim 28 asserts that the subject matter defined by appealed claim 28 is obvious in view of cited reference David et al. (International Publication Number WO 98/09290). It is the appellant's position that appealed claim 28 are not obvious in view of David et al.

The appellant contends that the subject matter defined by appealed claim 28 is not disclosed or suggested by David et al. Appealed claim 28 depends from claim 27, which the appellant has argued *supra* to be patentable under 35 U.S.C. §103(a). The appellant maintains that appealed claim 28 is not unpatentable under 35 U.S.C. §103(a) as being obvious in view of David et al.

The appellant contends that appealed claim 28 is not unpatentable under 35 U.S.C. §103(a), because David et al. do not disclose or suggest every feature of appealed claim 28. Specifically, appealed claim 28 defines subject matter for "wherein the processor comprises a single interpreter which is adapted to process the play control data, the selection control data and the variable control data sequentially". This additional subject matter is not disclosed or suggested by David et al.

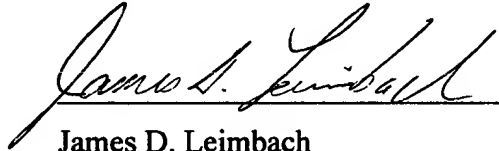
Furthermore, the appellant contends that the rejection of the additional subject matter for "wherein the processor comprises a single interpreter which is adapted to process the play control data, the selection control data and the variable control data sequentially" defined by appealed claim 28 has not provided any motivation within David et al. to modify the lists taught therein to create this additional subject matter. Neither has the rejection of appealed claim 28

provided any reasonable expectation of success to be derived from David et al. for creating a record carrier or apparatus that contains the additional subject matter defined by appealed claim 28.

Conclusion

In summary, the examiner's rejections of the claims are believed to be in error for the reasons explained above. The rejections of each of claims 9-51 should be reversed.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "James D. Leimbach", written over a horizontal line.

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APPENDIX I. Claims on Appeal

9. A record carrier comprising video-related user data and control data in digital form, wherein the control data enables playback control of the user data, and wherein the control data comprises:

play control data which defines user data items of the user data which are playable;
selection control data for enabling the user to select user data and control reproduction of the selected user data; and

variable control data for operating on user and system variables, wherein the variable control data comprises at least one conditional instruction, wherein each instruction of the at least one the conditional instruction includes an operation code and operands, wherein the operation code includes an operation portion denoting an operation and a condition portion denoting a condition, wherein the operation is to be executed if the condition is TRUE, wherein the operation is not to be executed if the condition is FALSE, and wherein the operation is adapted to be performed in conjunction with at least one of said operands.

10. The record carrier of claim 9, wherein the at least one instruction is embedded in a Command List comprising a Command List Header which precedes the at least one instruction, and wherein the Command List further comprises an unconditional goto which points to a next list to be executed following execution of said Command List.

11. The record carrier of claim 10, wherein the next list is another Command List.

12. The record carrier of claim 10, wherein the next list is not another Command List.

13. The record carrier of claim 10, wherein the Command List does not include any other instruction apart from the unconditional goto.

14. The record carrier of claim 10,

wherein the play control data is embedded in Play Lists, the Play Lists comprising at least a Play List Header as a first item and at least one Play Item representing playable user data and at least one reference to a further List;

wherein the selection control data is embedded in Selection Lists, the Selection Lists comprising at least a Selection List Header, at least one reference corresponding to a user selection, the Headers being mutually different; and

wherein the Command List includes a reference to a Play List of the Play Lists or a Selection List of the Selection Lists.

15. The record carrier of claim 9, wherein the operation code and operands of each instruction are stored in a contiguous set of bytes.

16. The record carrier of claim 9, wherein the at least one instruction includes a plurality of instructions, and wherein the instructions of the plurality of instructions are adapted to be executed in a coordinated fashion in accordance with a computer program based on an algorithm

17. The record carrier of claim 9, wherein the operands in a first instruction of the at least one instruction include indices pointing to elements of an array.

18. The record carrier of claim 17, wherein the condition denoted in the first instruction includes a dependence one at least one of said indices.

19. The record carrier of claim 17, wherein the operation denoted in the first instruction is an Arithmetic operation

20. The record carrier of claim 19, wherein an index of said indices points to an element E of said array, and wherein the condition is $E > 0$, $E < 0$, or $E = 0$.

21. The record carrier of claim 19, wherein a first index of said indices point to a first element E_1 of said array, wherein a second index of said indices point to a second element E_2 of said array, and wherein the condition is $E_1 > E_2$, $E_1 < E_2$, or $E_1 = E_2$.

22. The record carrier of claim 17, wherein the operation denoted in the first instruction is a logical operation.
23. The record carrier of claim 17, wherein the operation denoted in the first instruction is an assignment operation.
24. The record carrier of claim 23, wherein the operands in the first instruction further includes a constant adapted to be inserted by the first instruction into at least one element of said array.
25. The record carrier of claim 17, wherein the operation denoted in the first instruction is a jump operation, wherein a jump adapted to be executed by the jump operation is a jump to a list adapted to be next executed.
26. The record carrier of claim 17, wherein the operation denoted in the first instruction is a wait operation
27. An apparatus for reproducing user data under control of control data, comprising a processor controllable by the control data and a record carrier for storing the user data and the control data in digital form, wherein the user data comprising video data, and wherein the control data comprises:
- play control data which defines user data items of the user data which are playable;
 - selection control data for enabling the user to select user data and control reproduction of the selected user data; and
 - variable control data for operating on user and system variables, wherein the variable control data comprises at least one conditional instruction, wherein each instruction of the at least one the conditional instruction includes an operation code and operands, wherein the operation code includes an operation portion denoting an operation and a condition portion denoting a condition, wherein the operation is to be executed if the condition is TRUE, wherein the operation is not to be executed if the condition is FALSE, and wherein the operation is adapted to be performed in conjunction with at least one of said operands.

28. The apparatus of claim 27, wherein the processor comprises a single interpreter which is adapted to process the play control data, the selection control data and the variable control data sequentially.
29. The apparatus of claim 27, wherein the at least one instruction is embedded in a Command List comprising a Command List Header which precedes the at least one instruction, and wherein the Command List further comprises an unconditional goto which points to a next list to be executed following execution of said Command List.
30. The apparatus of claim 27, wherein the operands in a first instruction of the at least one instruction include indices pointing to elements of an array.
31. The apparatus of claim 30, wherein the condition denoted in the first instruction includes a dependence one at least one of said indices.
32. The apparatus of claim 30, wherein the operation denoted in the first instruction is an arithmetic operation.
33. The apparatus of claim 32, wherein an index of said indices points to an element E of said array, and wherein the condition is $E > 0$, $E < 0$, or $E = 0$.
34. The apparatus of claim 32, wherein a first index of said indices point to a first element E_1 of said array, wherein a second index of said indices point to a second element E_2 of said array, and wherein the condition is $E_1 > E_2$, $E_1 < E_2$, or $E_1 = E_2$.
35. The apparatus of claim 30, wherein the operation denoted in the first instruction is a logical operation.
36. The apparatus of claim 30, wherein the operation denoted in the first instruction is an assignment operation.

37. The apparatus of claim 36, wherein the operands in the first instruction further includes a constant adapted to be inserted by the first instruction into at least one element of said array.

38. The apparatus of claim 30, wherein the operation denoted in the first instruction is a jump operation, wherein a jump adapted to be executed by the jump operation is a jump to a list adapted to be next executed.

39. The apparatus of claim 30, wherein the operation denoted in the first instruction is a wait operation.

40. A method of reproducing user data under control of control data comprising:

reading the user data and the control data from a record carrier on which the user data and control data are stored in digital form, wherein the user data comprises video data, wherein the control data comprises play control data, selection control data and variable control data, wherein the selection control data enables a user of the method to select and control reproduction of user data items of the user data, wherein the variable control data controls operates on user and system variables, wherein the variable control data comprises at least one conditional instruction, wherein each instruction of the at least one the conditional instruction includes an operation code operands, wherein the operation code includes an operation portion denoting an operation and a condition portion denoting a condition, wherein the operation is to be executed if the condition is TRUE, wherein the operation is not to be executed if the condition is FALSE, and wherein the operation is adapted to be performed in conjunction with at least one of said operands; and

playing the user data under control of the play control data.

41. The method of claim 40, wherein the at least one instruction is embedded in a Command List comprising a Command List Header which precedes the at least one instruction, and wherein the Command List further comprises an unconditional goto which points to a next list to be executed following execution of said Command List.

42. The method of claim 40, wherein the operands in a first instruction of the at least one instruction include indices pointing to elements of an array.
43. The method of claim 42, wherein the condition denoted in the first instruction includes a dependence one at least one of said indices.
44. The method of claim 42, wherein the operation denoted in the first instruction is an arithmetic operation.
45. The method of claim 44, wherein an index of said indices points to an element E of said array, and wherein the condition is $E > 0$, $E < 0$, or $E = 0$.
46. The method of claim 44, wherein a first index of said indices point to a first element E_1 of said array, wherein a second index of said indices point to a second element E_2 of said array, and wherein the condition is $E_1 < E_2$, $E_1 > E_2$, or $E_1 = E_2$.
47. The method of claim 42, wherein the operation denoted in the first instruction is a logical operation.
48. The method of claim 42, wherein the operation denoted in the first instruction is an assignment operation.
49. The method of claim 48, wherein the operands in the first instruction further includes a constant adapted to be inserted by the first instruction into at least one element of said array.
50. The method of claim 42, wherein the operation denoted in the first instruction is a jump operation, wherein a jump adapted to be executed by the jump operation is a jump to a list adapted to be next executed.
51. The method of claim 42, wherein the operation denoted in the first instruction is a wait operation.